Automated Configuration Management System (ACMS)

Information Briefing to

Paperless Office IPT

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Briefing Outline

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  - Current Army Environment
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What is Configuration Management (CM)

"A management process for establishing and maintaining consistency of a product's performance, functional, and physical attributes with its requirements, design and operational information throughout its life. ..."

(MIL STD 2549)

Current Engineering Data Statistics

Army has:

- 8 Million images
- 5,000 ECPs / yr
- 5 TD/CMS sites & 6 JEDMICS sites
- 8,500 spare parts reprocurements / yr

Current Army Environment

Facts

- Army legacy Product Data is primarily stored in "unintelligent" raster format
- Contractors are developing "intelligent" data that cannot be managed by TD/CMS
- TD/CMS can't manage multiple product baselines
- CITIS implementations tend to be program unique

Resulting Problems

- Forces new producers to "re-invent" lost data intelligence - geometry and metadata
- Army incurs additional cost for conversion of data to raster format
- Depots must rely on other unofficial data sources to support repair and modifications
- Automation is expensive and provides little interoperability

Analysis

- Army does not do CM as well as it should. Current automated system (TD/CMS) can't handle all user needs.
- Army must switch from a "drawing" to "product data" perspective.
- Army must provide access to all data required to support a product throughout its life cycle.

Solution:

Need an automated configuration management system that:

- Knows about all product related data
- Can accept and manipulate “intelligent” data
- Compatible with Industry practices
- Supports Acquisition Reform objectives
- Uses COTS technology

That’s ACMS!

ACMS Goal

ACMS will:

- Provide the **required data** when it is needed and in a form that the user can apply to accomplish the mission.
- Operate in a diverse Army environment, integrate with other MSC business processes, and communicate with other MSC, government and industry information management systems.

Required Data

Required data is all product data, consisting of documents and metadata, required to specify, design, analyze, manufacture, maintain, sustain, test, inspect and dispose of the product over its entire life cycle.

Documents

- Drawings
- Reports
- Databases
- Application software
- Engineering designs
- etc.

Metadata

(data about the documents)

- Identifier
- Document location
- Revision level
- Owner
- Author
- Relationship to products
- Relationship to other documents
- etc.

ACMS Functional Capabilities

Product Data Management

- Product Structure Management
- Data Control and Vaulting
- Workflow Management
- Program Management
- Imaging Services
- Data Translation
- System Administration

Configuration Management

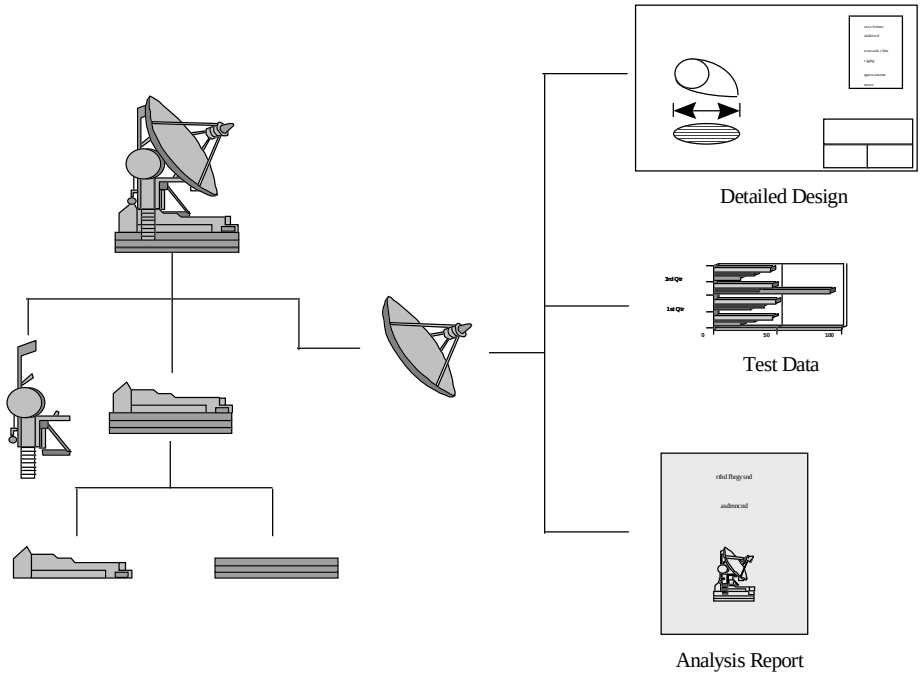
- CM Data exchange
- Configuration Planning
- Configuration Identification
- Configuration Audit
- Configuration Control
- Status Accounting

Tech Loop

- Tech Loop creation and maintenance
- Support Tech Loop Reviews
- Generate Tech Loop Reports

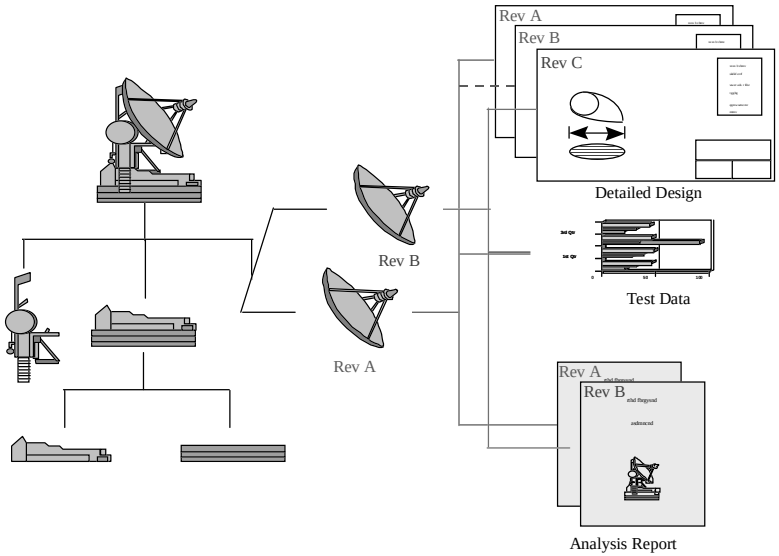
Product Structure

A Product Structure is a hierarchical listing of the assemblies, subassemblies, and parts that comprise a product. A PDM system allows the relevant CAD models, drawings, and documents to be attached to the Product Structure at the appropriate assembly or part.



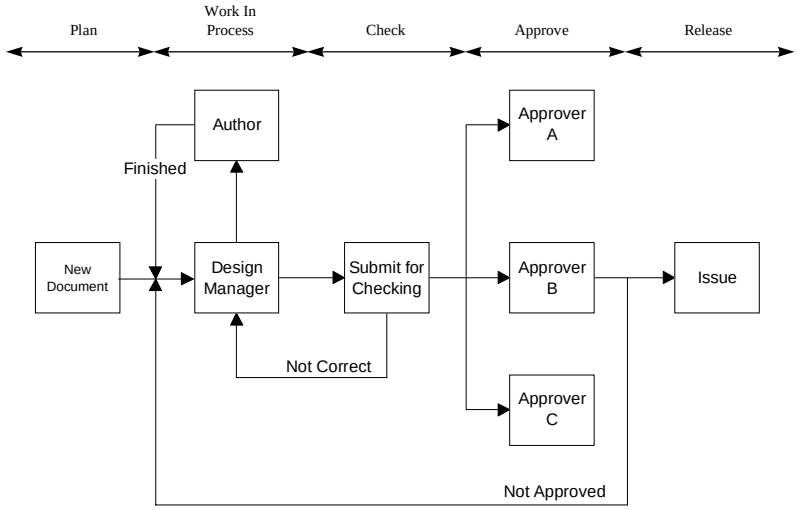
Data Control and Vaulting

Provides controlled access to product data including check-in and check-out procedures for data that will be changed. Can store multiple data formats. Can access data in multiple vaults (repositories). Maintains version control and history. Provides a series of electronic forms and functions for change requests, change assessments and change summaries.



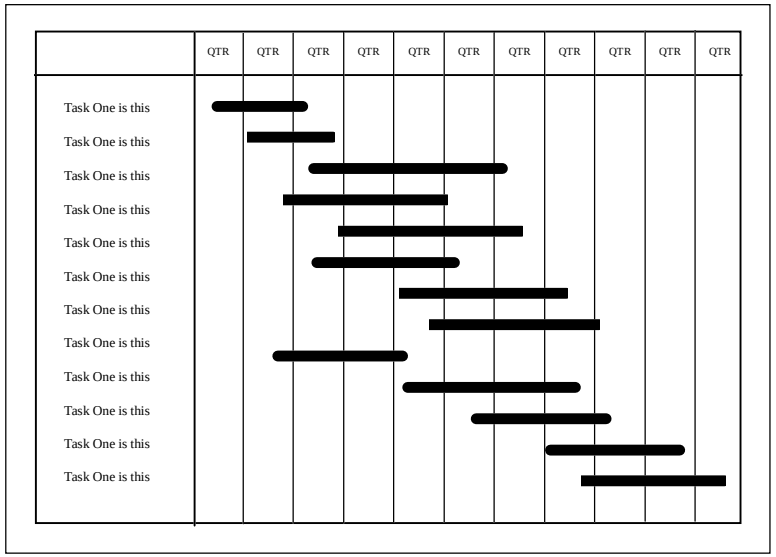
Work/Process Flow Management

Repetitive business processes can be programmed within the PDM system to automatically move information between process steps. Process cycle time and work status can be monitored and reports generated.



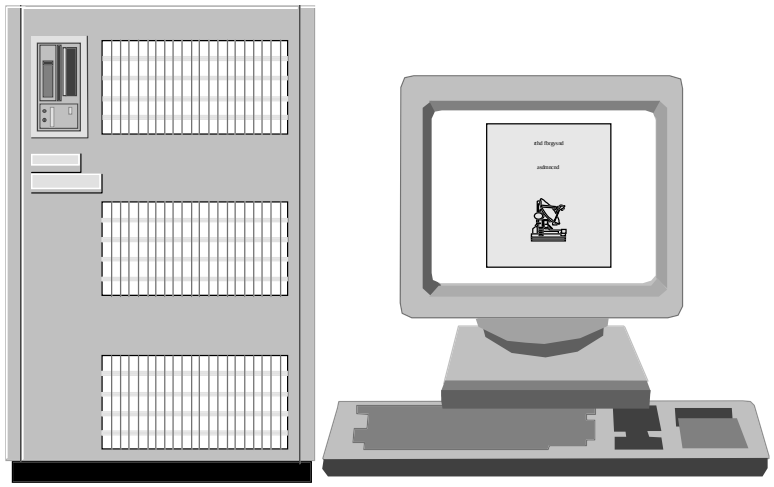
Program Management

When included in a PDM system, project management allows for tracking of actual resources and tasks against planned events. Completion of each task and its associated data creation is reported throughout.



Imaging Services

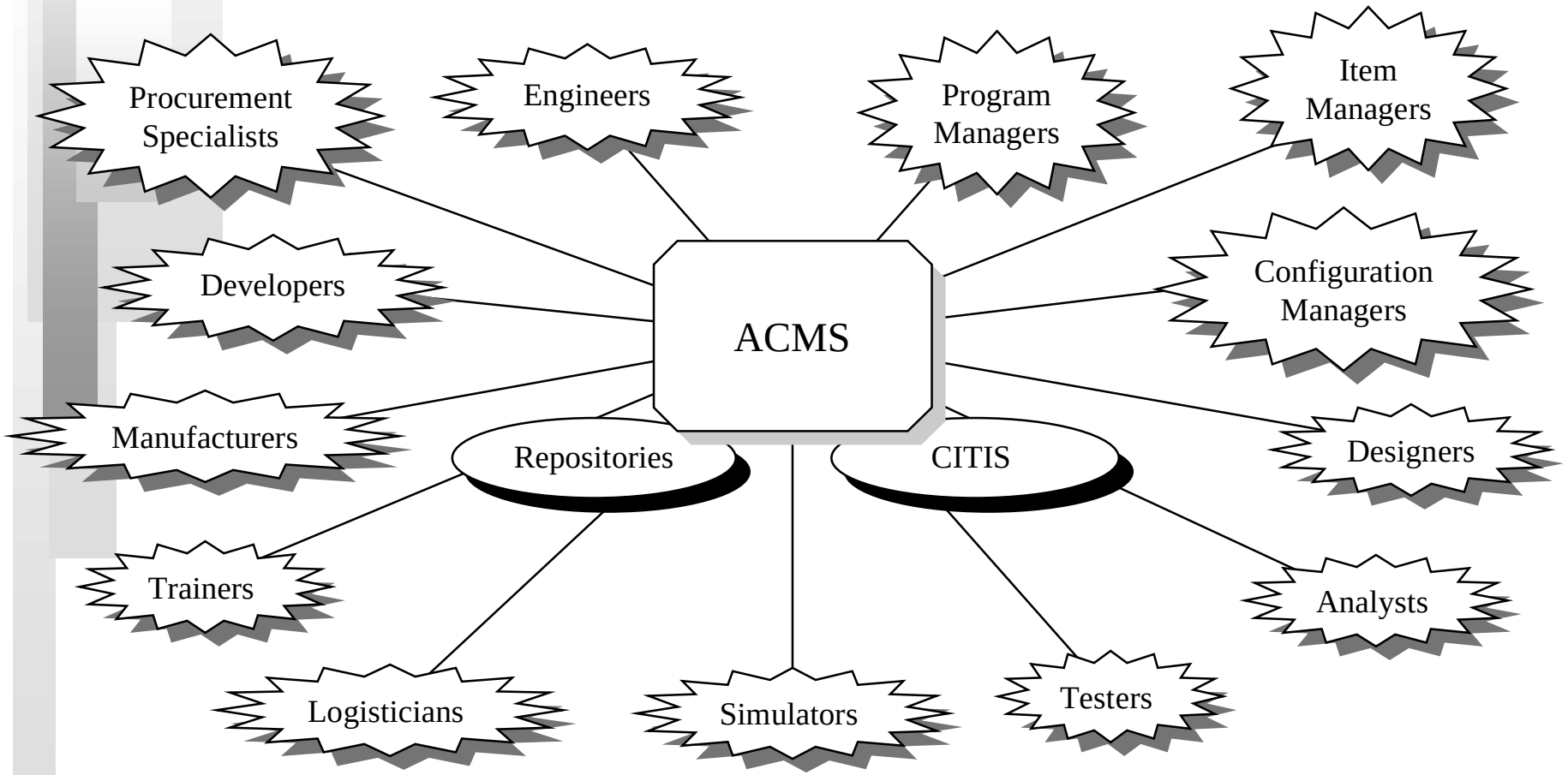
Provides on-line access to multiple data formats and representations (raster, vector, video, text, etc) through standard viewer tools. Allows for review, print, and mark-up capability. Web browser viewers are now available.



Concept of Operation

- Create interconnected system of systems
- Provide enterprise level visibility of data
- Use standard CITIS Interface (MIL-STD-2549)
- Provide a tool that is flexible and adaptable to meeting current and future business processes.
- Use Web technology to obtain widespread, inexpensive implementation

ACMS User Communities



Project Status

- Established multi-MSC Task Force
- Developed ACMS Vision and CONOPS
- Re-engineered CM process to make effective use of automated processes
- Completing work on a Performance Specification

- Next Steps:
  - Coordinate with Army PM and Logistics communities
  - Coordinate with OSD, DLA and other Services

Performance Specification

- Lists performance requirements
- Follows industry direction of “product focus” vs “document focus”
- Prepared by the CM experts within Army
- Suitable for evaluation and procurement of a Product Data Management (PDM) system
- Enables interoperability and standardization between systems

Summary

Benefits to PM Community

- Provides total data visibility and management
- Reduces data acquisition costs by supporting contractor data formats and business practices, and standard data ordering and delivery method
- Provides connectivity to contractor CITIS's and other ACMS's
- Provides flexibility in future production and support decisions (CLS or organic)
- COTS solution provides faster migration path to newer technologies at lower costs

Summary

- Typical PDM benefits reported by Commercial Sector
  - Reduction in number of Engineering Changes 55-80%
  - Reduction in Engineering Change processing time 35%
  - Reduction in design/development costs 50%
  - Reduction in design cycle time 20-40%
  - Reduction in the number of parts 42%
  - Reduction in the number of paper copies 40-90%
  - Reduction in the number of document control staff 30%
  - Reduction in document release time 60%
  - Reduction in document request time 99%
  - Reduction in manufacturing costs 30%

Summary

What we need from you:

- Include ACMS as critical CM/DM component of PM IDE strategy
- Provide feedback on the adequacy of the performance specification and the concept of operations
- Provide “customer” voice to support need for ACMS

For Additional Information

Visit the ACMS Web site

www-iea.ria.army.mil/ai/eng_data/acms/acms_frameset1.html